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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,732	01/15/2002	Toshiaki Yoshihara	1100.66111	5175

7590 05/28/2004

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/047,732

Applicant(s)

YOSHIHARA ET AL.

Examiner

Jennifer T Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This Office action is responsive to amendment filed 03/12/2004.
2. Claim 4 is objected to because of the following informalities: claim 4 is repeated of claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kurematsu et al. (U.S. Patent No. 5,251,050).

Regarding claim 1, referring to Figs. 1-4, Kurematsu teaches a liquid crystal display device, comprising: two substrates confronting each other; a liquid crystal material having spontaneous polarization sealed between said substrates; pixel electrodes (Cl<sub>s</sub>) corresponding to liquid crystal cells, provided on an inner face of one of said substrates; switching elements (3) respectively connected to each of said pixel electrodes; and storage capacitors (Cs) for storing electric charge, respectively connected to each of said pixel electrodes; wherein a ratio of capacity of said storage capacitor (Cs) against that of said liquid crystal cell (Cl<sub>s</sub>) is not less than 0.2 and not more than 5 (from col. 3, line 28 to col. 4, line 68).

Regarding claims 9-13, Kurematsu teaches liquid crystal material is a ferroelectrics liquid crystal (col. 1, lines 54-67).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu et al. (U.S. Patent No. 5,251,050) in view of Hagiwara et al. (U.S. Patent No. 5,130,050).

Regarding claims 3 and 5-8, Kurematsu differs from claims 3 and 5-8 in that he does not specifically teach data writing time on said liquid crystal cell and said storage capacitor through said switching element is set so that amount of transmitted light due to the switching of said liquid crystal material determined by image data during off state of said switching element does not substantially change and data writing time is not more than 5 microseconds. However, Hagiwara teaches data writing time on said liquid crystal cell and said storage capacitor through said switching element is set so that amount of transmitted light due to the switching of said liquid crystal material determined by image data during off state of said switching element does not substantially change and data writing time is few microseconds to 10 microseconds (col. 1, lines 4-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the data writing time as taught by Hagiwara in the system of Kurematsu in order to achieve stabilized display of a half tone is.

7. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu et al. (U.S. Patent No. 5,251,050) in view of Yamazaki et al. (U.S. Patent No. 6,597,348).

Regarding claims 14-19, Kurematsu differs from claims 14-19 in that he does not specifically teach a back-light having at least one light source that emits light of a plurality of colors; and a switching unit for switching colors of emitted light of said light source in a time-divided manner in synchronism with the switching of said liquid crystal material of said liquid crystal cell. However, Yamazaki teaches a back-light (102) having at least one light source that emits light of a plurality of colors; and a switching unit (403) for switching colors of emitted light of said light source in a time-divided manner in synchronism with the switching of said liquid crystal material of said liquid crystal cell (from col. 4, line 38 to col. 5, line 15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the back-light having at least one light source that emits light of a plurality of colors; and the switching unit for switching colors of emitted light of said light source in a time-divided manner in synchronism with the switching of said liquid crystal material of said liquid crystal cell as taught by Yamazaki in the system of Kurematsu in order to obtain the images visible on the display panel efficiently.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu et al. (U.S. Patent No. 5,251,050) in view of Evanicky et al. (U.S. Patent No. 6,611,249).

Regarding claim 20, Kurematsu differs from claim 20 in that he does not specifically teach color filters for displaying colors. However, referring to Fig. 3, Evanicky teaches color filters (425) for displaying colors. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the color filters as taught by Evanicky in the system of Kurematsu in order to improve image quality.

Art Unit: 2674

9. Applicant's arguments with respect to claims 1 and 3-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Nguyen whose telephone number is 703-305-3225. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on 703-305-4709.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks


Washington, D.C. 20231

**or faxed to: (703) 872-9306 (for Technology Center 2600 only)**

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JNguyen  
May 19, 2004

  
**REGINA LIANG**  
**PRIMARY EXAMINER**